Operator Training

Impressed Current Cathodic Protection

South Carolina Department of Health and Environmental Control
Impressed Current Cathodic Protection

Components:

- Structure being protected (cathode)
- The anode(s) protecting the structure
- Environment
- Electric connection
Impressed Current Cathodic Protection

Impressed current systems are generally installed on those tank systems that are older and do not have any other form of protection (bare steel tanks and piping).
Impressed Current Cathodic Protection

Impressed Current cathodic protection uses an electrical circuit to provide corrosion protection. Anodes are installed around the tanks and/or piping. These anodes are attached to a rectifier box and to the structure(s) being protected.
Impressed Current Cathodic Protection

The rectifier uses electrical power to activate the anodes. These activated anodes then send energy to the structure(s) being protected. This energy is transmitted to the structures’ surface to inhibit corrosion.

The structure(s) then sends energy back to the rectifier to complete the circuit. This circuit of energy takes away energy from the tank (or piping) which would usually cause corrosion.
Impressed Current Cathodic Protection

This is a rectifier box. It may be found inside or outside of your building. Electrical power to the rectifier must remain on at all times, otherwise the tanks/piping are not protected.
Impressed Current Cathodic Protection

Every 60 days check that the rectifier is on and operating. Record volts, amps and hour reading (if applicable) on the DHEC 60-Day Record of Rectifier Operations, the DHEC Walkthrough Inspection Checklist or another approved form. 6 months worth of readings are required to be on hand at all times.
Impressed Current Cathodic Protection

Periodically inspect the cables that run across and around the tank field to make sure that none are exposed or broken. Either condition should be repaired immediately as it cause the system to not function properly.
Impressed Current Cathodic Protection

- The cathodic protection system must be tested at least once every three years by a qualified cathodic protection tester.

- Test results must be on SC form. Keep the two most recent tests on file at all times.
Impressed Current Cathodic Protection

- If any part of the test fails, notify the Division immediately.

- If the test or part of the test fails, the system must be repaired and retested within 30 days.